



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/800,989	03/15/2004	Jonathon Harold Laurer	2003-0586.01	1424

21972 7590 07/25/2005

LEXMARK INTERNATIONAL, INC.
INTELLECTUAL PROPERTY LAW DEPARTMENT
740 WEST NEW CIRCLE ROAD
BLDG. 082-1
LEXINGTON, KY 40550-0999

EXAMINER

DO, AN H

ART UNIT	PAPER NUMBER
----------	--------------

2853

DATE MAILED: 07/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/800,989

Applicant(s)

LAURER ET AL.

Examiner

An H. Do

Art Unit

2853

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 June 2005.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
4a) Of the above claim(s) 11-16 is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-10 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 15 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 3/15/04.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

The Response filed on 16 June 2005 has been acknowledged.

Election/Restrictions

1. Applicant's election with traverse of Group I including claims 1-10 in the reply filed on 16 June 2005 is acknowledged. The traversal is on the ground(s) that the claims as grouped by the examiner are sufficiently related that their respective classes and subclasses would be thoroughly cross-referenced, and essentially the same classes and subclasses would have to be reviewed regardless of which group was examined. This is not found persuasive because as indicated in previous office action, the method claims are distinct from the apparatus/structure claims in such a way that the claimed method steps can be involved in more further steps such as etching, coating or annealing before coming up with claimed printhead structure.

The requirement is still deemed proper and is therefore made FINAL.

2. Claims 11-16 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 16 June 2005.

Information Disclosure Statement

3. The information disclosure statement (IDS) submitted on 15 March 2004 was filed and is being considered by the examiner.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 3 and 5-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Keefe (US 5,434,607).

Keefe discloses in Figures 8 and 9 the following claimed features:

Regarding claims 1, 8 and 9, a micro-fluid ejection device (TAB printhead assembly 42), comprising:

- a fluid ejection chip (Figure 9, substrate 46) having a first length (Figure 8, long parallel length of nozzle plate 44) and a first width (Figure 8, short parallel width of nozzle plate 44 as shown in Figure 9) and having a first side (top surface of 46) and a second side (bottom surface of 46), the first side (top surface) including a plurality of fluid ejection actuators (Figure 9, resistors 64) and a plurality of bond pads (32);

- a flexible circuit (tape 28) having a first side (top surface) and a second side (bottom surface), a window (36) therein, and leads (Figure 8, traces 30) disposed in the window, wherein the window (36) of the flexible circuit (TAB) circumscribes the chip (46) and each of the leads (traces 30) is electrically connected to corresponding bond pads (32) on the first side of the chip (46); and

- a nozzle plate structure (nozzle plate 44) containing a plurality of nozzle holes (48) therein, the nozzle plate structure (44) having a second length (length of 44) and a

Art Unit: 2853

second width (width of 44) and being attached to the flexible circuit (tape 28) and chip (46),

wherein the nozzle plate structure (44) overlaps the first side of the chip (Figure 9) and at least the leads (traces 30) and bond pads (32), and wherein the nozzle plate structure (44) is effective to retard fluid contact with the bond pads (32) and leads (traces 30) in the absence of an encapsulant (without using an encapsulant or cover).

Regarding claim 3, wherein the nozzle plate structure comprises a nozzle plate (44) and a protection plate (barrier layer 50) circumscribing the nozzle plate (44) (see Figure 9).

Regarding claim 5, wherein the second width (width of 44) is greater than the first width (Figure 9, width of 46).

Regarding claim 6, wherein the second length (length of 44) is greater than the first length (Figure 8, length of 46).

Regarding claim 7, wherein the protection plate (50) overlaps the first side of the chip (46) and the leads (30) and bond pads (32) (Figure 9).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 2, 4 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Keefe (US 5,434,607) in view of Murthy et al (US 6,024,440).

Keefe discloses the claimed invention except for reciting the nozzle plate structure comprises a polyimide film.

Murthy et al teach the nozzle plate structure (18) comprises a polyimide film (column 3, lines 7-8, claims 16 and 23).

It would have been obvious to one having ordinary in the art at the time the invention was made to have the nozzle plate structure made of polyimide film, as taught by Murthy et al into Keefe, for the purpose of obtaining the thermal curing.

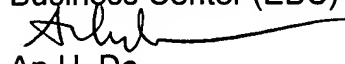
Contact Information

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to An H. Do whose telephone number is 571-272-2143. The examiner can normally be reached on Monday-Friday (Flexible).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen D. Meier can be reached on 571-272-2149. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).


An H. Do
July 15, 2005